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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.              | CONFIRMATION NO.            |
|--|-------------|----------------------|----------------------------------|-----------------------------|
| 10/568,150   | 02/10/2006  | Baris Bozkurt        | VANM276001APC                    | 6152                        |
| 20995 7590 05/11/2007<br>KNOBBE MARTENS OLSON & BEAR LLP<br>2040 MAIN STREET<br>FOURTEENTH FLOOR<br>IRVINE, CA 92614 |             |                      | EXAMINER<br>MCFADDEN, SUSAN IRIS |                             |
|  |             |                      | ART UNIT<br>2626                 | PAPER NUMBER                |
|  |             |                      | NOTIFICATION DATE<br>05/11/2007  | DELIVERY MODE<br>ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

**Office Action Summary**

Application No.

10/568,150

Applicant(s)

BOZKURT ET AL.

Examiner

Susan McFadden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5-7, and 11 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 8-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1-11 are objected to because of the following informalities: there is no antecedent basis for "said input signal", "said source", "said filter" in the body of the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Schell et al. (6,069,857).

In regard to claims 1 and 11, Schell et al. show a computer medium and method for estimating from an input signal the resonance frequencies of a system modelled as a source and a filter, the method comprising: determining the Z-transform of said input signal; calculating the differential-phase spectrum of said Z-transformed input signal, said Z-transform thereby being evaluated on a circle centered around the origin of the Z-plane, detecting the peaks on said differential-phase spectrum; attributing said peaks to either said source or said filter; and estimating said resonance frequencies from said peaks (Fig. 124).

4. Claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bozkurt et al., Mixed Phase Speech Modeling and Formant Estimation Using Differential Phase (cited by Applicant).

In regard to claims 1 and 11, Bozkurt et al. show a method for estimating from an input signal the resonance frequencies of a system modelled as a source and a filter, the method comprising: determining the Z-transform of said input signal; calculating the differential-phase spectrum of said Z-transformed input signal, said Z-transform thereby being evaluated on a circle centered around the origin of the Z-plane, detecting the peaks on said differential-phase spectrum; attributing said peaks to either said source or said filter; and estimating said resonance frequencies from said peaks (Abstract).

5. Claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Reddy et al., "High-Resolution Formant Extraction from Linear Prediction Phase Spectra", (cited by Applicant).

In regard to claims 1 and 11, Reddy et al. show a method for estimating from an input signal the resonance frequencies of a system modelled as a source and a filter, the method comprising: determining the Z-transform of said input signal; calculating the differential-phase spectrum of said Z-transformed input signal, said Z-transform thereby being evaluated on a circle centered around the origin of the Z-plane, detecting the peaks on said differential-phase spectrum; attributing said peaks to either said source or said filter; and estimating said resonance frequencies from said peaks (Abstract).

***Claim Rejections - 35 USC § 103***

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddy et al (cited above) in view of Doval et al., "The Voice Source as a causal/anticausal linear filter (cited by Applicant).

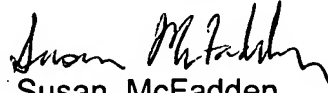
In regard to claims 5-7, Reddy et al. show the medium and method discussed above. They do not specifically show that the input signal is speech and a glottal flow signal is used. Doval et al. show a method that shows that the voice source can be a causal/anticausal linear filter that includes a glottal flow signal (pg. 2). Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to add this feature because it models the system more accurately.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan McFadden whose telephone number is 571-272-7621. The examiner can normally be reached on Monday-Friday, 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Susan McFadden  
Primary Examiner  
Art Unit 2626

May 3, 2007